X80 Wireless Camera System

User's Manual

Version 2.0

www.buckeyecam.com

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1. Warnings

Contains FCC ID:MCQ-XBEE09P The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (*i.*) this device may not cause harmful interference and (*ii.*) this device must accept any interference received, including interference that may cause undesired operation.

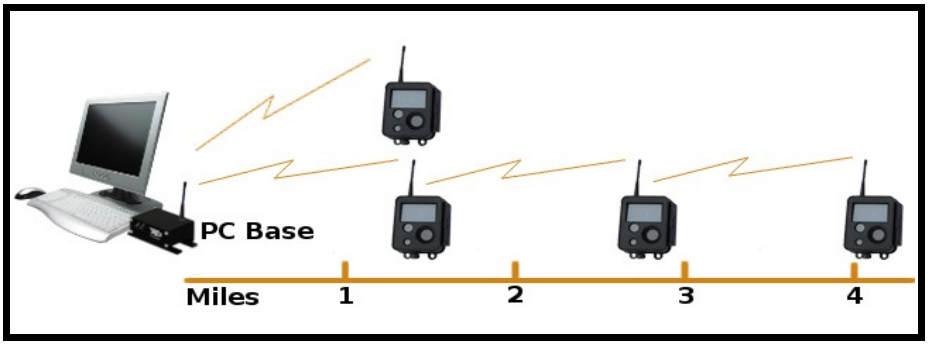
If the camera is used with any antenna other than the portable antenna supplied with the X Series Camera Unit or PCBase Unit, the system may not comply with the FCC regulation Part 15.247, Operation within the license-free band 902 – 928 MHz. Contact manufacturer regarding use of optional high-gain antennas with the X80 Wireless Camera System.

To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance are not recommended. The antenna used for this transmitter must not be co-located in conjunction with any other antenna or transmitter.

This product should not be used in any application where product failure may cause injury to persons, loss of life, or catastrophic property damage.

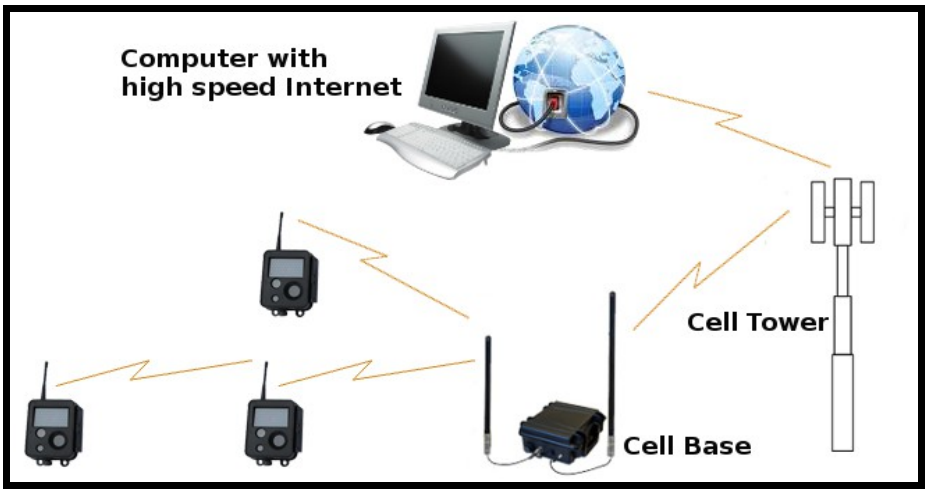
2. Overview

When a camera detects motion, a picture or video is taken and transmitted to a base receiver. Up to 254 cameras can be assigned to one base. Four different base options are available. Transmission distance may be up to 1-2 miles with standard antennas. Transmission distance can be increased by using high gain antennas or repeaters.



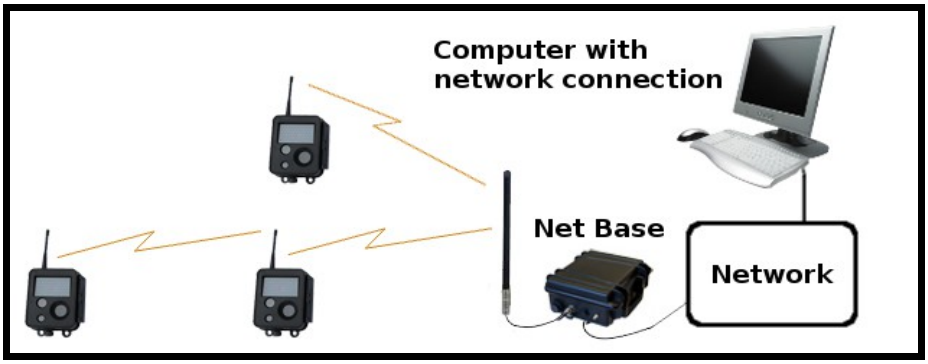
PC Base

- Connects to computer with USB
- Lowest cost base option
- Cell service is NOT required



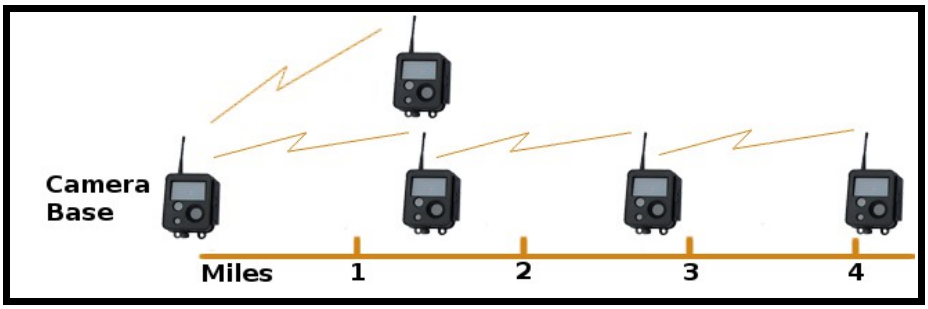
Cell Base

- Connects to computer over Internet
- One cellular data plan is required
- Works with most cell providers



Net Base

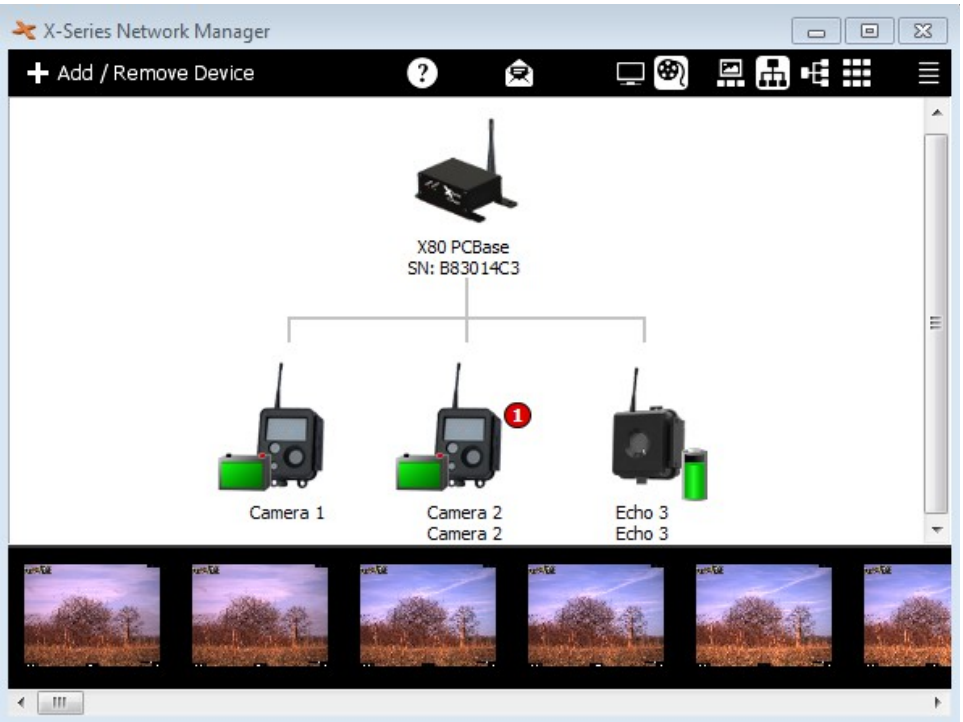
- Connects to computer with Ethernet
- Uses existing network
- Cell service is NOT required



Camera Base

- Computer is NOT required
- Camera acts as base with SD card
- Cell service is NOT required

Images are received and all of the camera settings are controlled using the *X-Series Network Manager* software application.



Images can be viewed from *X-Series Network Manager*, or automatically emailed, or uploaded to your account at livecam.buckeyecam.com, making them easily accessible from smartphones or tablets.

The cameras are powered with rechargeable lead acid batteries and can take thousands of pictures on a single charge. Optional solar panel chargers are available to extend battery life indefinitely. The camera and battery pack are housed in watertight, weatherproof enclosures for reliable outdoor operation.

3. Getting Started

If you are using a *PC Base*, *Cell Base*, or *Net Base*, follow the steps below to set up your system.
If you are using a *Camera Base*, go to chapter 13.

Install X-Series Network Manager and USB Modem Driver for Windows.

Use the supplied installation CD or download at
www.buckeyecam.com/site/support.html

Connect to a Base.

For *PC Base* refer to chapter 4.
For *Cell Base* refer to chapter 5.
For *Net Base* refer to chapter 6.

Register cameras.

Refer to chapter 7.

Adjust camera settings.

Refer to chapter 8.

Install cameras in their permanent location.

Refer to chapter 9.

4. Connecting to a PC Base

PC Base 1

Attach antenna.

The PC Base is for indoor use only. If optional high gain antenna will be used, refer to Chapter 10.

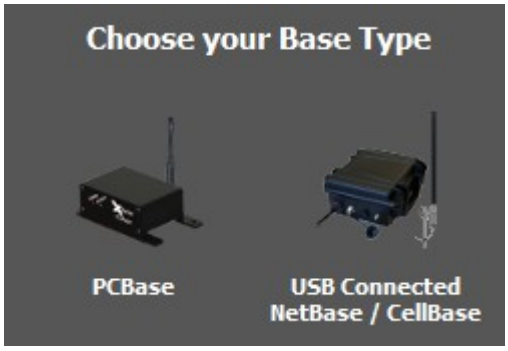
PC Base 2

Connect PC Base to computer with USB cable.

Minimum computer requirements are :
Windows XP or later, 128 MB RAM,
1.5 GB disk space, USB port.

PC Base 3

Start *X-Series Network Manager* and click the PCBase icon.

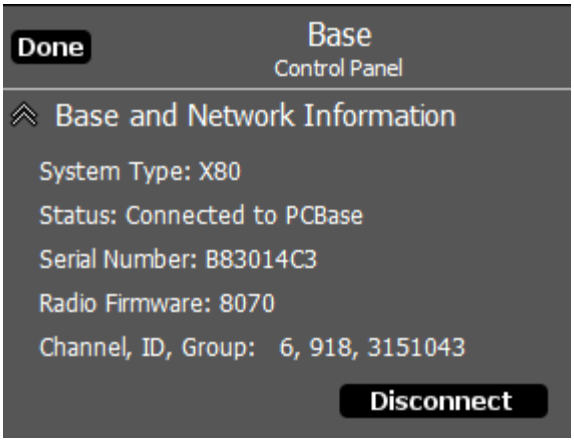


PC Base 4

Click the Connect button.

PC Base 5

Click the Done button.



5. Connecting to a Cell Base

Cell Base 1

Make sure your Cell Base has an active cellular data account.

If you need assistance setting up an account contact Buckeye Cam Service at 866-325-8172 ex 1195, or www.buckeyecam.com.

Cell Base 2

Connect the power source.

If you are using the AC/DC wall adapter (provided), proceed to step A1.
If you are using an external battery (not provided), proceed to step B1.

A1

Connect the pigtail to the AC/DC wall adapter.

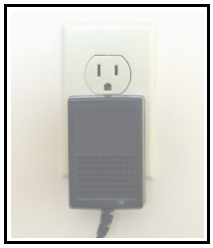
A2

Connect the AC/DC wall adapter to the *Cell Base.*

A3

Plug the AC/DC wall adapter into an AC power outlet.

The AC/DC wall adapter is for indoor use only.



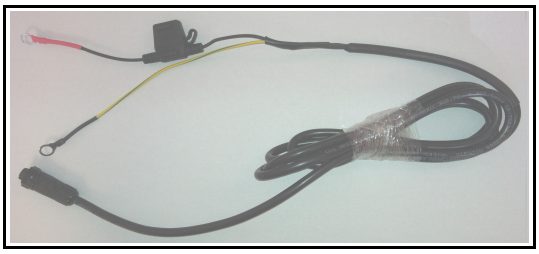
A4

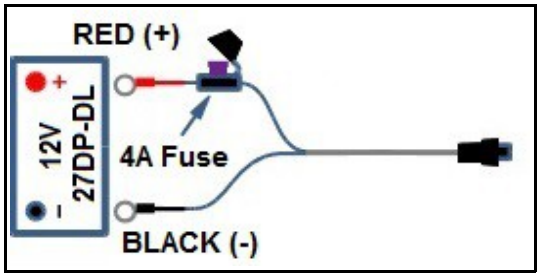
Proceed to Cell Base step 2

B1

Connect the battery cable to the battery.

Use the provided battery cable to connect to a 12 Volt 27DP-DL marine battery (or equivalent).
(Battery is not provided).

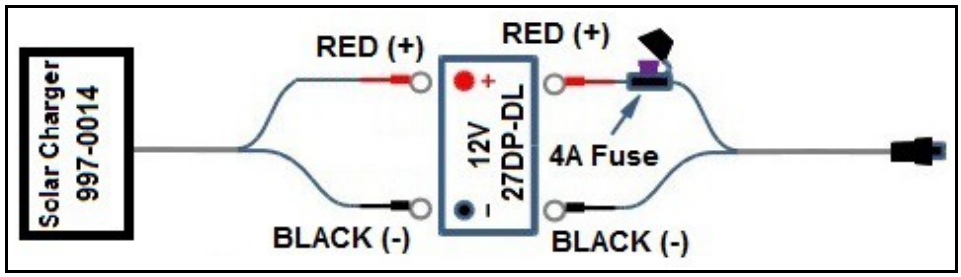




B2

Connect optional solar charger (if used).

Use Buckeye Cam part number 997-0014 only.



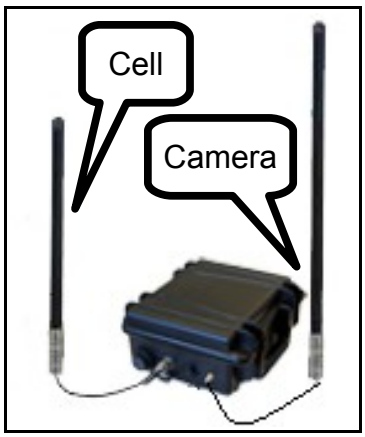
Battery charging may produce potentially explosive gas. Do not charge battery in a sealed enclosure.

B3

Connect the battery cable to the *Cell Base*.

Cell Base 3

Connect the antennas.



Cell Base 4

Open the enclosure lid.

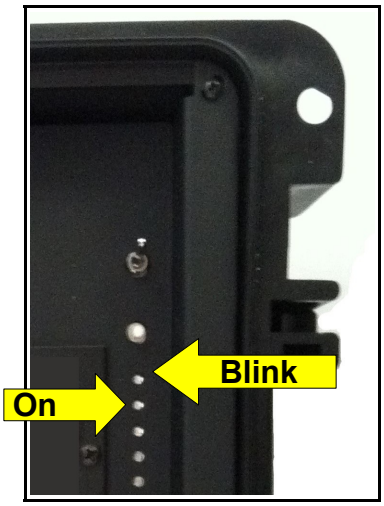
Cell Base 5

Move the toggle switch down to the ON position.

Cell Base 6

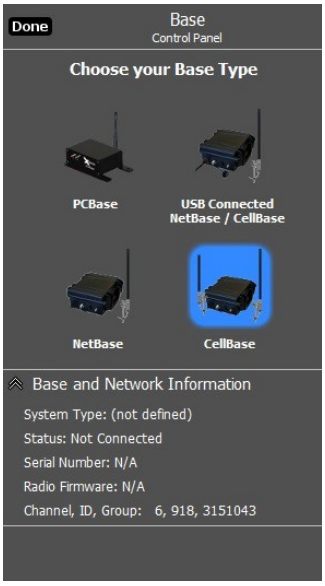
Wait for the first LED to blink slowly and the second to be on solid.

This may take several minutes.



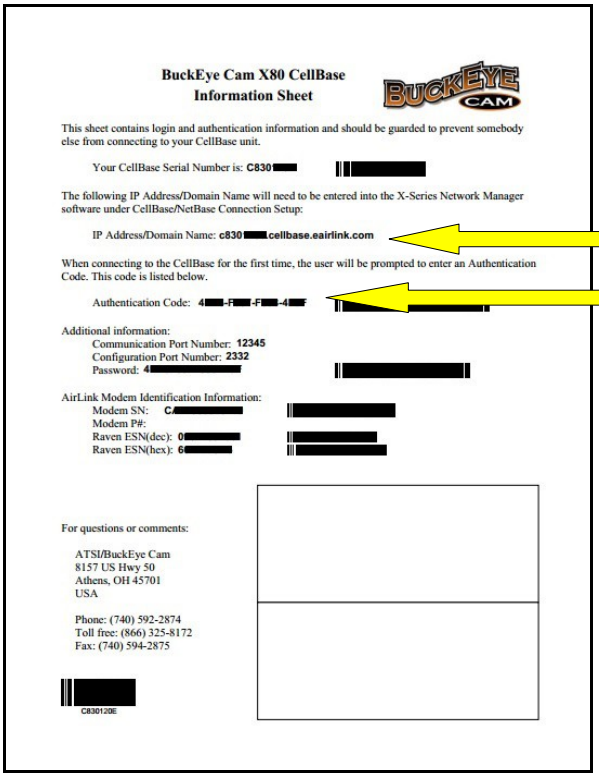
Cell Base 7

Start *X-Series Network Manager* and click on the *Cell Base* icon.



Cell Base 8

Enter the IP Address / Domain Name and Authentication Code from the *Cell Base* Information Sheet.



BuckEye Cam X80 CellBase
Information Sheet

This sheet contains login and authentication information and should be guarded to prevent somebody else from connecting to your CellBase unit.

Your CellBase Serial Number is: C830[redacted]

The following IP Address/Domain Name will need to be entered into the X-Series Network Manager software under CellBase/NetBase Connection Setup:

IP Address/Domain Name: c830[redacted].cellbase.eairlink.com

When connecting to the CellBase for the first time, the user will be prompted to enter an Authentication Code. This code is listed below.

Authentication Code: 4[redacted]-F[redacted]-F[redacted]-4[redacted]F

Additional information:
Communication Port Number: 12345
Configuration Port Number: 2332
Password: 4[redacted]

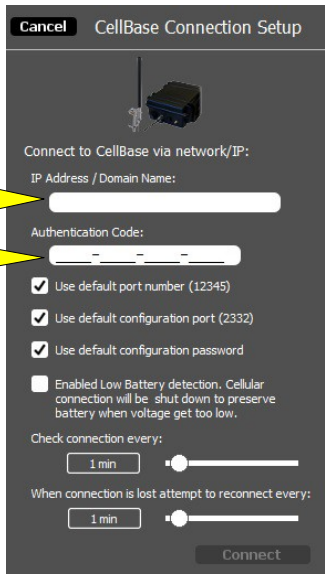
AirLink Modem Identification Information:
Modem SN: C[redacted]
Modem P#:
Raven ESN(dec): 0[redacted]
Raven ESN(hex): 6[redacted]

For questions or comments:

ATSI/BuckEye Cam
8157 US Hwy 50
Athens, OH 45701
USA

Phone: (740) 592-2874
Toll free: (866) 325-8172
Fax: (740) 594-2875

C830120E


Cancel
CellBase Connection Setup
Connect to CellBase via network/IP:
IP Address / Domain Name:
Authentication Code:
Use default port number (12345)
Use default configuration port (2332)
Use default configuration password
Enabled Low Battery detection. Cellular connection will be shut down to preserve battery when voltage get too low.
Check connection every:
1 min
When connection is lost attempt to reconnect every:
1 min
Connect

Keep the Cell Base Information Sheet in a safe place. You may need it again if you need to re-enter the connection setup or if you need to contact Buckeye Cam tech support.

Cell Base 9

Set connection default options.

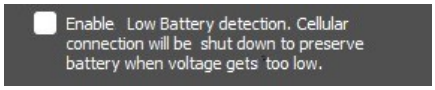
These should be checked for normal use.

Cell Base 10

Enable or Disable Low Battery Detection.

If this box is checked, the cellular connection will be turned off when the battery is low. This will prevent battery damage. It will be automatically turned back on if the battery charges back up to a sufficient level (e.g. by solar charger).

It is recommended to check this box if the Cell Base is powered with a battery.

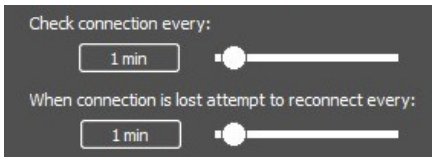


Cell Base 11

Select the check connection and lost connection times.

The connection to the Cell Base may be lost due to a temporary Internet outage or a dropped cell signal. *X-Series Network Manager* will periodically check the connection and try to reconnect if it is lost.

Shorter time settings will result in less down time but will use slightly more battery power.

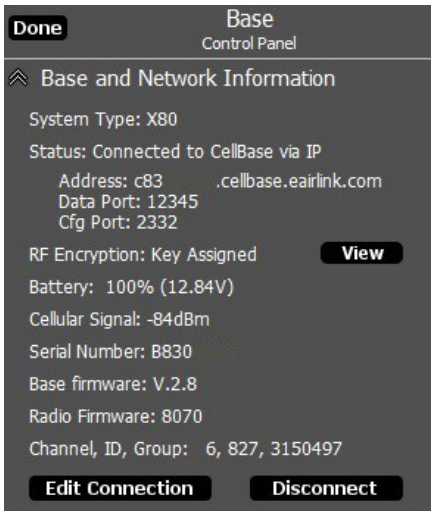


Cell Base 13

Click the *Connect* button.

Cell Base 14

Click the *Done* button.



Cell Base 15

Close the enclosure lid.

6. Connecting to a Net Base

Net Base 1

Connect the pigtail to the AC/DC wall adapter.

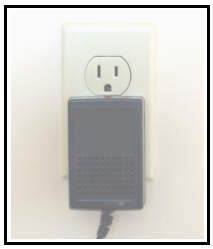
Net Base 2

Connect the AC/DC wall adapter to the *Net Base.*

Net Base 3

Plug the AC/DC wall adapter into an AC power outlet.

The AC/DC wall adapter is for indoor use only.

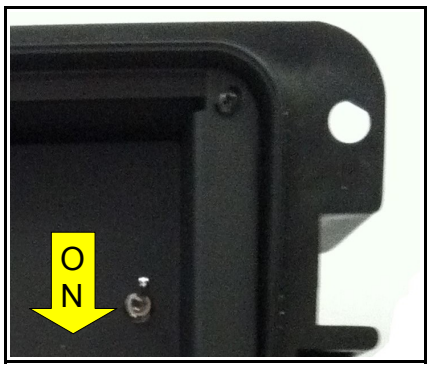


Net Base 4

Open the enclosure lid.

Net Base 5

Move the toggle switch down to the ON position.

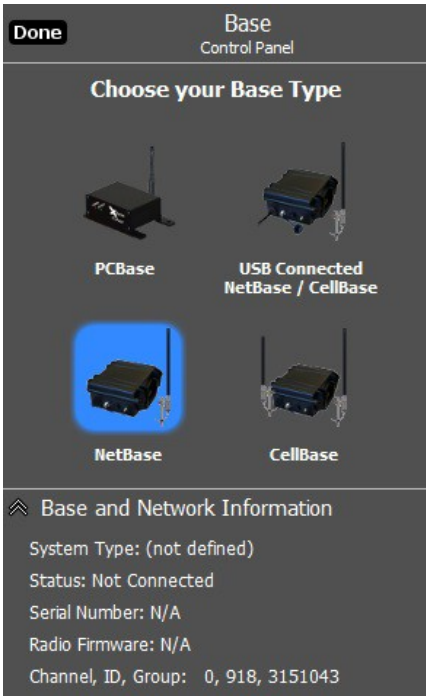


Net Base 6

Connect to the network with an Ethernet cable.

Net Base 7

Start *X-Series Network Manager* and click on the *Net Base* icon.



Net Base 8

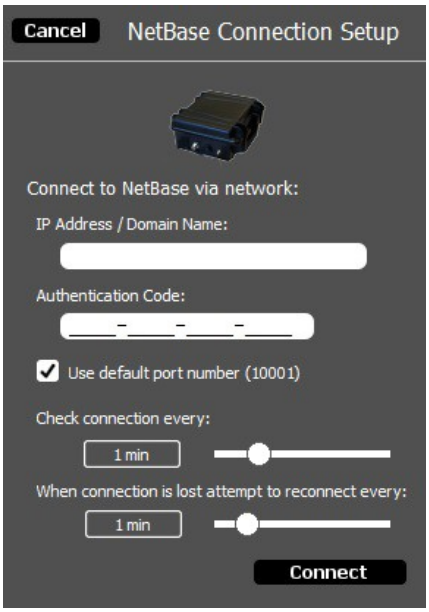
Enter the IP Address / Domain Name.

In order for *X-Series Network Manager* to connect to a Net Base, it must know the IP address that has been assigned to it.

The IP address is assigned to the *Net Base* by a DHCP server running on the local network.

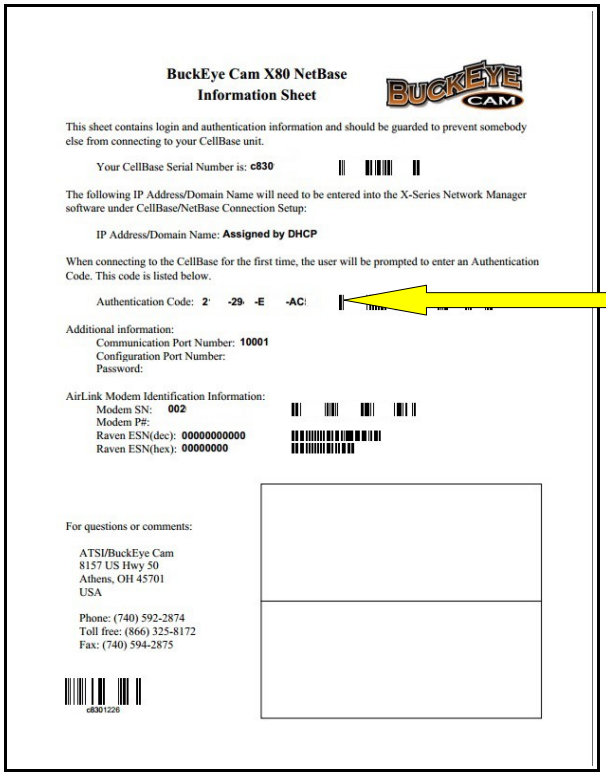
The DHCP server may be running on a gateway or router. You will need to access the client list table and find the IP address that matches the MAC address that is on the sticker inside of the *Net Base*.

You may need to refer to the gateway or router documentation for instructions on how to access the client list table.



Net Base 9

Enter the Authentication Code from the Net Base Information Sheet.



BuckEye Cam X80 NetBase Information Sheet

This sheet contains login and authentication information and should be guarded to prevent somebody else from connecting to your CellBase unit.

Your CellBase Serial Number is: **c830**

The following IP Address/Domain Name will need to be entered into the X-Series Network Manager software under CellBase/NetBase Connection Setup:

IP Address/Domain Name: **Assigned by DHCP**

When connecting to the CellBase for the first time, the user will be prompted to enter an Authentication Code. This code is listed below.

Authentication Code: **2 -29- -E -AC**

Additional information:
Communication Port Number: **10001**
Configuration Port Number:
Password:

AirLink Modem Identification Information:
Modem SN: **002**
Modem P#:
Raven ESN(dec): **00000000000**
Raven ESN(hex): **00000000**

For questions or comments:

ATSI/BuckEye Cam
8157 US Hwy 50
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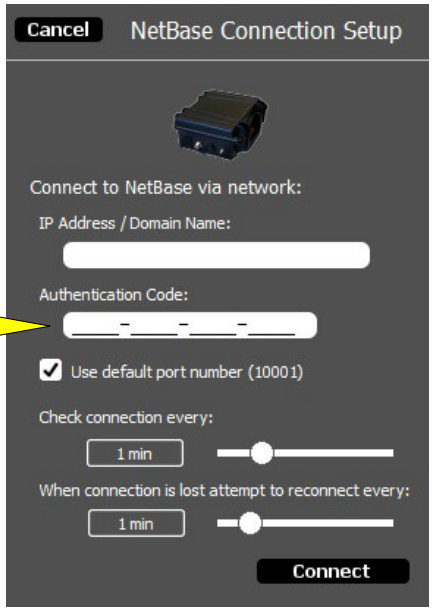
Phone: (740) 592-2874
Toll free: (866) 325-8172
Fax: (740) 594-2875

c8301226



Keep the Net Base Information Sheet in a safe place. You may need it again if you need to re-enter the connection setup or if you need to contact Buckeye Cam tech support.

Net Base 10

Set the Check connection and lost connection times.

The default time of 1 minute is adequate for most applications.

Net Base 11

Click the connect button.

Net Base 12

Close the enclosure lid.

7. Register Cameras

Register 1

Connect the camera antenna.

Register 2

Install a UB1270 battery into the battery pack.

The red wire connects to battery (+). The black wire connects to battery (-).

Register 3

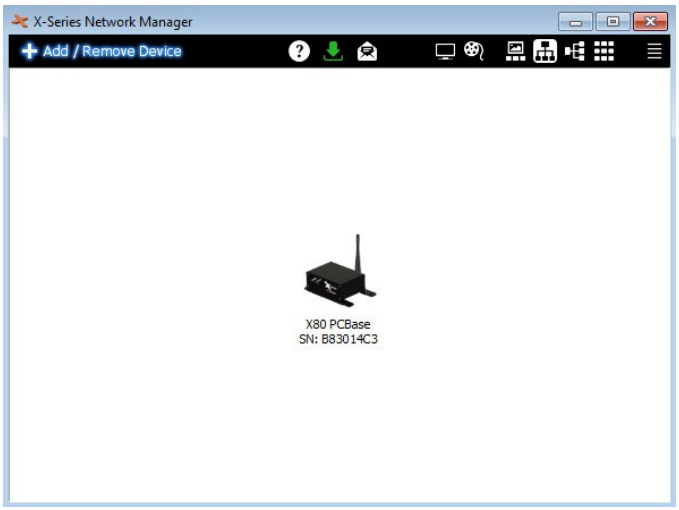
Close and latch the battery pack and connect it to the camera.

Register 4

Open the camera enclosure and wait for the LCD display to show "Not Registered Waiting for Base".

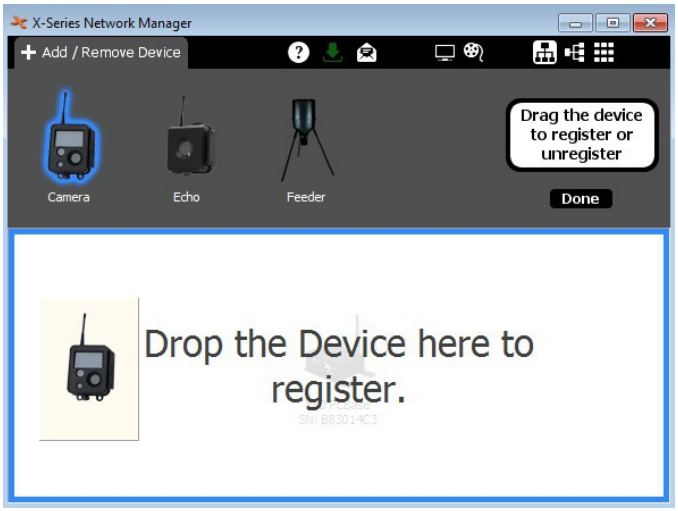
Register 5

In *X-Series Network Manager* click *Add/Remove Device*.



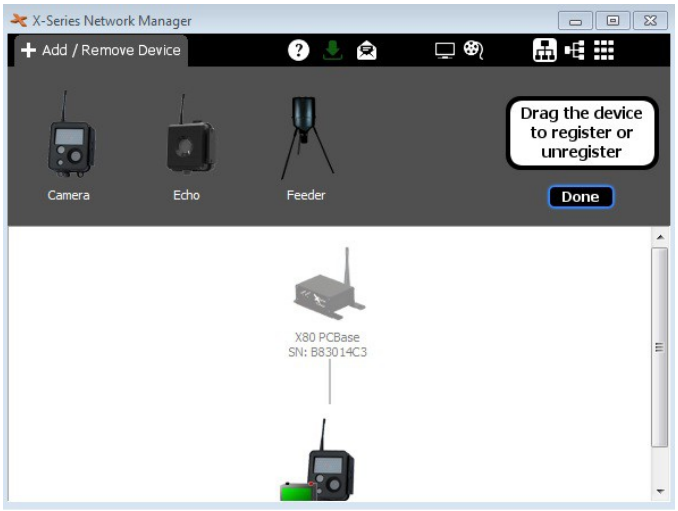
Register 6

Drag the camera icon and drop it into the network view.



Register 7

Repeat for all cameras. Click *Done* when finished.



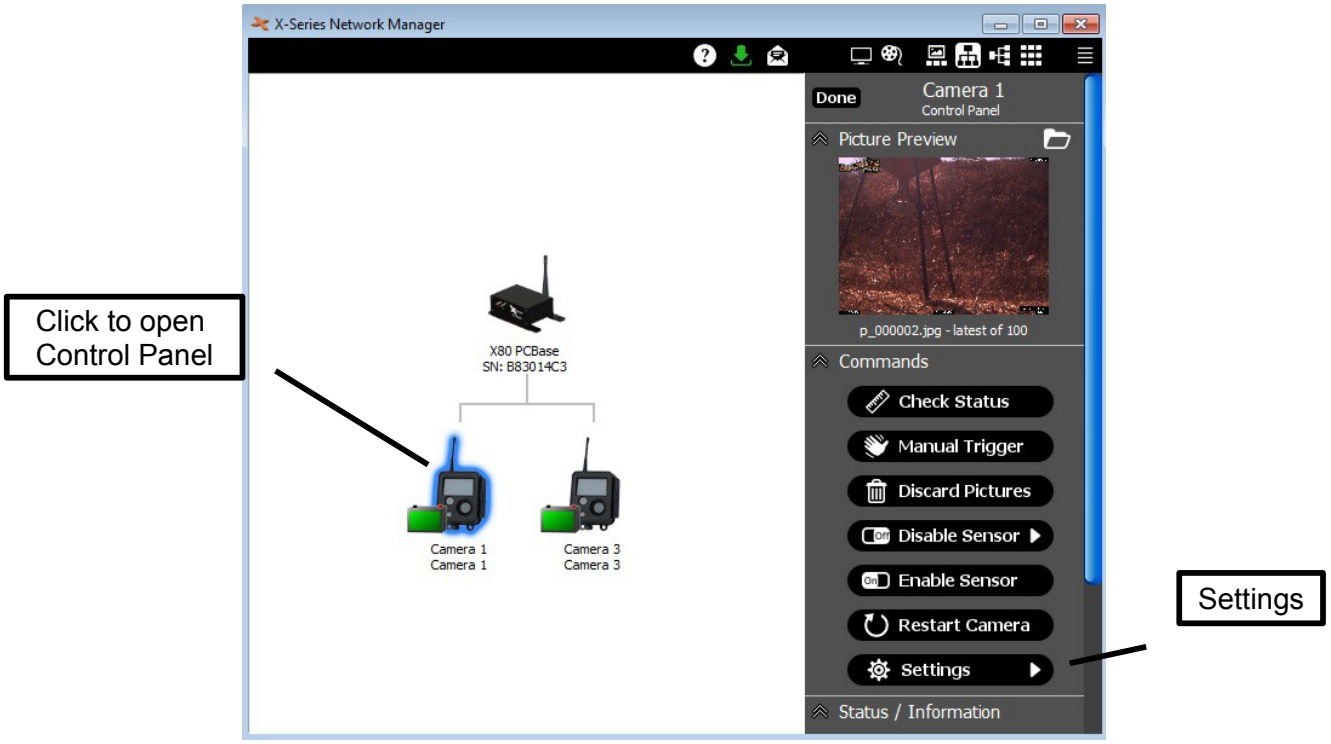
Register 8

Close the camera enclosure(s).

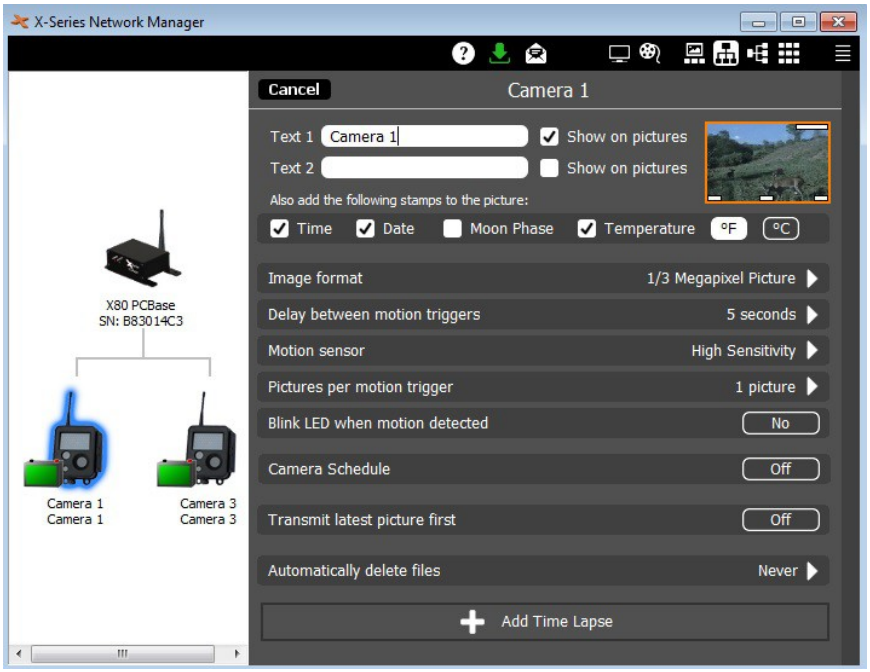
After a camera is successfully registered, the LCD display will show the camera number.

8. Camera Settings

To access the camera settings for any camera, click on the camera icon in the network view to open the camera *Control Panel*.



Click on the *Settings* button from the camera *Control Panel.* (Note: The *X-Series Network Manager* window is re-sizable. If you do not see the *Settings* button, you may need to use the scroll bar on the right side of the window to scroll down.)



Stamps on pictures

Time, Date, Moon Phase, and Temperature may be added to pictures by checking the appropriate box. Custom text may be entered in the Text 1 and Text 2 fields. This text may be added to pictures by checking the box next to each field.

Image format

Click on the arrow to select the image format. Select the picture resolution – or video.

Delay between motion triggers

Click on the arrow to select the delay between motion triggers. If a camera receives a motion trigger, it will not respond to another trigger until the delay time has elapsed.

Motion sensor

Click on the arrow to select the motion sensor sensitivity. To disable the motion sensor, set the sensitivity to Off.

Pictures per motion trigger

Click the arrow to select the pictures per motion trigger value. When the value is set to 1, the camera will take 1 picture each time it is triggered. To take multiple pictures with each trigger, set the value greater than 1. For example, if the value is set to 3, the camera will take 3 pictures, as fast as possible, each time it is triggered.

Blink LED when motion detected

Click the Yes/No toggle button to enable or disable a blinking LED when the camera detects motion. This is a visible red LED on the front of the camera. It is very useful for doing a “walk test” in front of the camera to verify that it is triggering correctly. (Note: If camera concealment is important, this option should be set to No after the camera is installed in the permanent location.)

Camera schedule

Click the On/Off toggle button to turn the camera schedule on or off. Using the camera schedule, the camera may be disabled at certain times of the day, or use different settings a different times of the day.

Transmit last picture first

Click the On/Off toggle button to turn on “transmit last picture first”. This setting controls how the camera transmits pictures when there is more than one picture waiting to be transmitted. If this button is set to Off, the pictures will be transmitted in the order they were taken. If it is set to On, they are transmitted latest picture first.

Automatically delete files

Click the arrow to change this setting. This can be used to have *X-Series Network Manager* automatically delete pictures from your computer after a certain period of time. If it is set to Never, *X-Series Network Manager* will never delete pictures from your computer.

Stamps on pictures

Click the Add Time Lapse button to setup a time lapse schedule.

9. Camera Installation

Install 1

Attach camera to a solid structure.

The supplied spring buckle strap may be used to attach the camera to a tree, vertical post, or other solid structure.

Alternatively, it may be attached with a screw or nail using the hole in the top of the mounting bracket.

The best height for the camera will depend on the primary target of interest. Usually, the camera should be placed at about the height of the center of mass of the primary target of interest.

For maximum motion trigger distance, the face of the camera should be perpendicular to the ground.

If maximum motion trigger distance is not critical, the camera may be placed at an angle.

Install 2

Connect battery pack.

If you have not done so already, install the battery (see Chapter 7).

The supplied spring buckle strap may be used to attach the battery pack to the same solid structure as the camera.

It may also be attached with a screw or nail using the hole in the top of the bracket.

Alternatively, the battery pack may be placed on the ground. This may make it easier to conceal.

The battery pack is watertight, however it should not be submerged.

Once the battery pack is in place, connect it to the camera with the supplied cable.

Install 3

Make sure the Base is installed and powered up and the camera is registered (i.e. PC Base, Cell Base, Net Base, or Camera Base).

Install 4

Open the camera enclosure and push the NEXT button until the LCD display shows the following message:

```
Signal to Base
measuring...
```

If the camera can get a signal to the Base, the LCD display will show the signal strength.

If the camera cannot get a signal to the Base, it will show the following:

```
no response!
```

Transmission distance may be up to 1-2 miles line-of-sight using the standard antennas. This distance may be reduced if there are obstructions between the camera and the Base.

If the camera cannot get a signal to the Base, you can try moving it to a different location. If that is not an option, refer to *Chapter 10, Antennas* and *Chapter 11, Repeaters*.

Install 5

Close the camera enclosure.

Install 6

Do a "walk test".

Make sure that the "Blink LED when motion detected" option is set to *Yes* and "Delay between motion triggers" is set to 1 in *X-Series Network Manager*.

Walk in front of the camera and verify that the visible LED triggers.

To get the get the maximum trigger distance, the face of the camera should be perpendicular to the ground.

If maximum distance is not critical, the camera may be placed at an angle.

Install 6

Adjust camera position if necessary.

If necessary, adjust the positioning of the camera until the visible LED triggers in the desired range. Small changes in the angle can have a significant affect on the trigger distance.

Install 7

Repeat these steps for all cameras.

Don't forget to return the camera settings to the desired values.
The “Blink LED when motion detected” option may be left on permanently, but if camera concealment is important you may want to turn it off.

10. Antennas

The standard antennas provided with X80 cameras are small omnidirectional antennas that attach directly to the camera. The type of wireless transmission used is radio frequency (RF) line-of-sight. Generally speaking, this means that you need to have a limited amount of obstructions between the transmitting and receiving devices in order to get an acceptable transmission signal.

Standard antennas WILL transmit through:

- Most types of trees
- Wood frame walls

Standard antennas WILL NOT transmit through:

- Think pine trees (conifers)
- Metal buildings or structures
- Earth or large hills

For many applications, the standard antennas will work well. The transmission distance with standard antennas may be up to 1-2 miles under ideal conditions (i.e. very few obstructions).

For applications where a good signal to the Base cannot be obtained using the standard antennas, two options are available: high gain antennas and/or using cameras as repeaters. This chapter will discuss high gain antennas.

Two types of high gain antennas are available: omnidirectional and directional (Yagi).

High Gain Omnidirectional Antennas

- Transmit and receive equally in all directions (i.e. 360°)
- Should be mounted vertically.
- Mount high to avoid obstructions

Typical Uses for Omnidirectional Antennas

- Base antenna (typically, 40” Omni)
- Repeater camera antenna (26” Omni)

High Gain Yagi (Directional) Antennas

- Transmit and receive mostly in one direction
- Should be pointed at the receiver
- Mount high to avoid obstructions
- Provides the highest gain

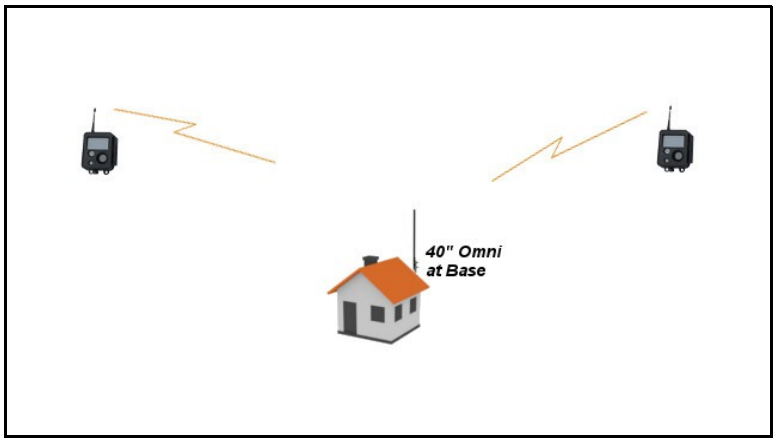
Typical Uses for Yagi (Directional) Antennas

- Camera antenna for improved signal (Mini Yagi)
- Camera antenna for very long distances (56” Yagi)
- Camera antenna when transmitting through trees or brush

The following illustrations show examples of the most common antenna setups. Transmission distances may vary due to many factors such as, terrain, trees, brush, or various types of radio frequency interference.

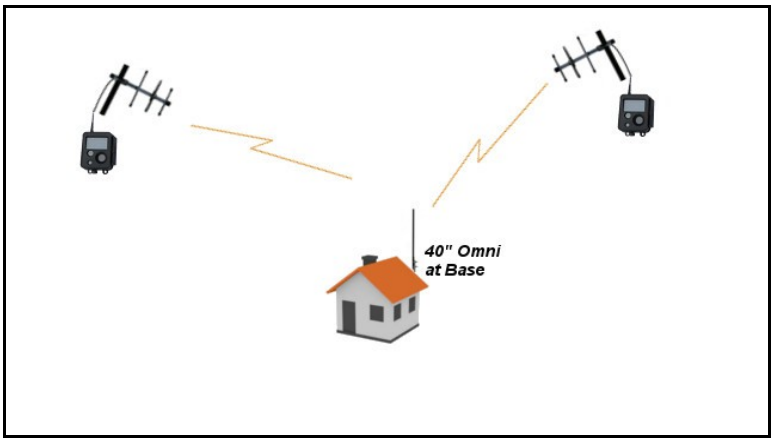
40” Omni at Base, Standard at Cameras

- Most common antenna upgrade
- Mount Omni as high as possible
- Use 400 series cable
- Typical transmission range up to 2 miles



40” Omni at Base, Yagi at Cameras

- Mount Omni as high as possible
- Use 400 series cable
- Mini Yagi or 56” Yagi at cameras
- Point Yagi antennas to the Base



It may be possible to increase transmission distance to many miles. This will usually require an advanced antenna setup. For assistance in selecting the right antenna for your application, contact Buckeye Cam at www.buckeyecam.com or by phone at 866-325-8172.

Installing antenna masts may present a serious life threatening risk due to potential falls or contact with power lines. Installation should only be done by a qualified professional in accordance with all appropriate codes.

11. Repeaters

Any X80 camera can act as a repeater camera. This feature is very useful for extending transmission distance or transmitting over large hills or obstacles.

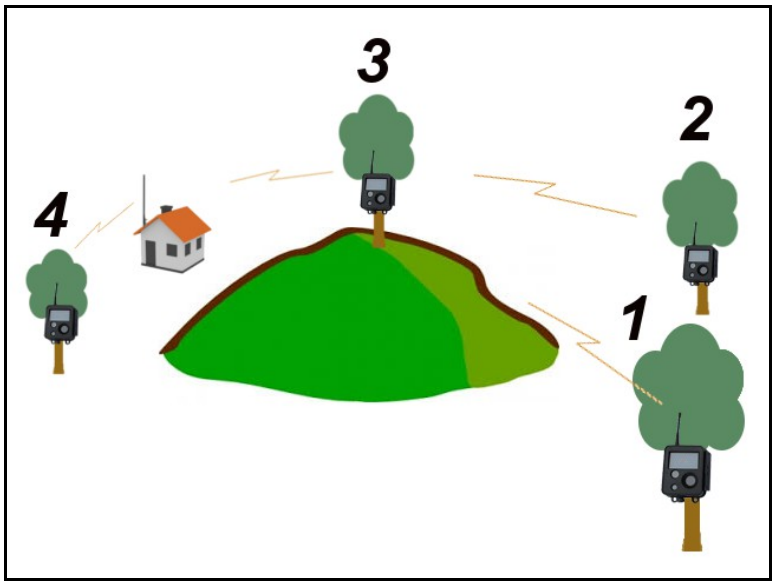
Transmit over hills using a repeater.

In this example, camera 1 and camera 2 cannot get a signal to the Base due to a large hill blocking the line-of-sight.

Camera 3 has a clear line-of-sight to the Base and is able to get a good signal, so camera 1 and camera 2 are routed through it.

Camera 3 receives all of the images from camera 1 and camera 2 and transmits them to the base (it also acts as a normal camera).

Camera 4 transmits directly to the Base.



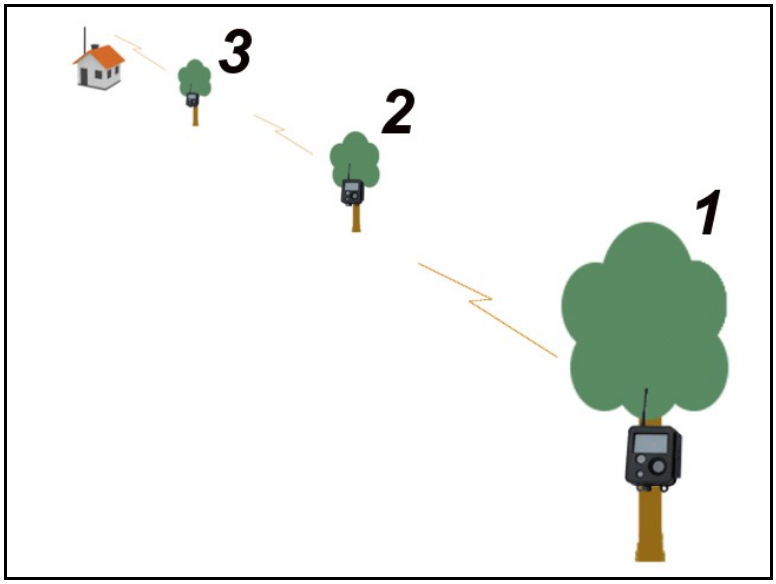
Extend transmission distance using repeaters.

In this example, camera 3 can get a good signal to the base. Camera 2 and camera 1 cannot get a signal to the base because they are too far away.

Camera 2 can get a signal to camera 3, so it is routed through camera 3.

Camera 1 can get a signal to camera 2, so it is routed through camera 2.

Camera 3 receives all of the images from camera 1 and camera 2 and transmits them to the base (it also acts as a normal camera).



Notes on using cameras as repeaters

- Repeating through cameras will cause some transmission delays.
- When a camera is acting as a repeater, it can still function as a normal camera.
- If a camera has multiple cameras routed through it, upgrading the antenna to a high-gain Omnidirectional antenna may improve performance (see *Chapter 10, Antennas*).

Setting up a repeater network with multiple cameras

Repeaters 1

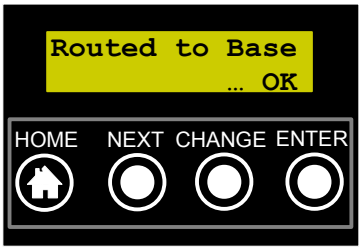
Install cameras in their permanent location and check the signal to the Base (see *Chapter 9, Camera Installation*).

For best results, route cameras directly to the base when possible.

To setup a repeater network, there must first be at least one camera that can get a signal directly to the base.

Repeaters 2

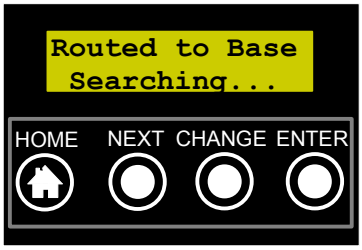
Push the NEXT button until the display shows how the camera is currently routed.



Repeaters 3

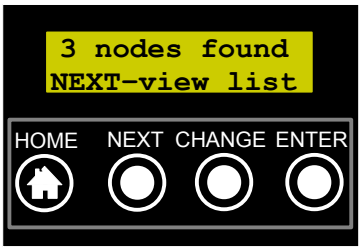
To change the routing, push the CHANGE button.

The camera will now search for any other devices that it can get a signal from.



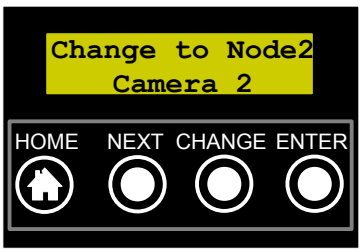
Repeaters 4

When the search is complete, push the NEXT button to the view all of the devices that were found (if any).



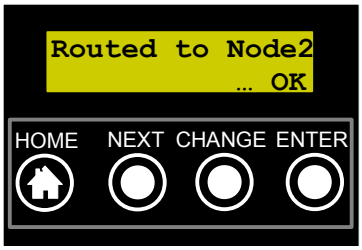
Repeaters 5

Push the ENTER button when the display shows the camera that you would like to route through.



Repeaters 6

If the camera is able to contact the base through the node that you have selected, the display will show ".... OK".



12. Camera Technical Specifications

The X80 camera contains a 5 Megapixel image sensor. When the camera is triggered by motion, a picture or video is immediately taken. If there is enough available light, the camera will take color images. If there is not enough available light, a black and white infrared image will be taken.

For infrared images, the scene is illuminated with an infrared flash that is invisible to the human eye.

The parts of the camera are shown below:

1. Antenna
2. Infrared flash
3. Images sensor
4. Light sensor
5. Motion detector
6. Latch
7. Battery connector

The camera may be opened using the latch, to access the status display and control panel buttons. If battery power is properly connected, pushing any button will activate the status display.

The camera is watertight when the latch is closed and sealed properly. However, when the camera housing is opened it is NOT watertight. The camera should not be opened when it may be exposed to rain, snow, or other sources of water.

The function of each of the control panel buttons is as follows:

HOME

Push to return the display to the first status message.

NEXT

Push this button to go to the next status message.

CHANGE

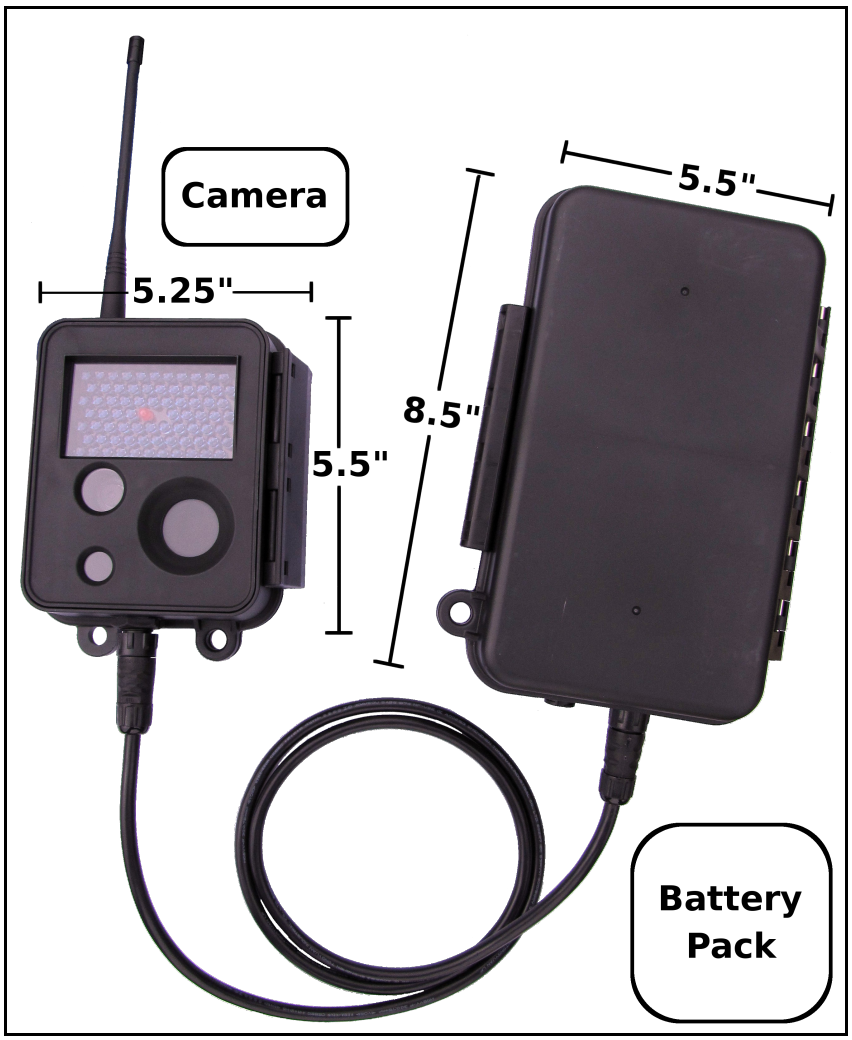
Push to change one of the parameters shown in the status message.

ENTER

Push to select one of the adjustable parameters in a status message, execute a function, or apply a change.

If no buttons have been pressed for several minutes, the display will go blank to save power.

Power is supplied to the camera from an external battery pack. The battery pack contains a 12 Volt sealed lead-acid type battery.



The camera and battery pack are watertight and weatherproof when the latches are closed and sealed properly.

The standard color of the camera and battery pack is matte black. Optional camo finishes are available in both desert and woodland patterns.

12. Camera Technical Specifications

Camera Specification Table [1]

Picture Format	User Selectable. 5 Megapixel (Mp), 3 Mp HD, 3Mp 1080 HD, 1 Mp, 720 HD, 0.3 Mp
Video Format	640 x 360 pixels
Video Frame Rate	Up to 15 frames per second.
Video Length	5 to 60 seconds.
Motion Detector Type	Passive Infrared (PIR)
Motion Detector Range [2]	User adjustable. Up to 100 feet
Motion Detector Detection Angle [3]	Approximately 10 degrees
Reaction Time [4]	0.2 Seconds
Delay Between Pictures	User selectable. 1 second to 2 hours.
Stamps on Picture	User selectable. Date, Time, Temperature, Moon Phase, and 2 custom text fields.
Additional Optional Settings [5]	Custom camera schedules. Time lapse photography. Pictures or video emailed or uploaded to secure LiveCam Web-site.
RF Transmission Range [6]	2 miles (standard antennas) Distance may be increased with high gain antennas and / or repeaters.
Transmission Speed [6]	Up to 8 kilo bytes per second (Approx. 6 sec for 0.3Mp picture)
Maximum allowable antenna gain	15.1 dBi (including cable losses)
Number of Cameras Assigned to One Base	Up to 254
Operating Temperature	-40 to 140 F
Battery Type	12V SLA UB1270 sold separately
Solar Panel	Optional solar panels sold separately
Communication Frequency Band	902 to 928 MHz, software selectable channel mask for interference immunity
Transmitter Output Power	Up to 250 mW
Spread Spectrum	FHSS
Regulatory Approvals	
FCC (USA)	MCQ-XB900HP
IC (Canada)	1846A-XB900HP
C-Tick (Australia)	Yes
Anatel (Brazil)	Pending

[1] Specifications are subject to change and may not be available in all firmware or software versions.

[2] Motion detector range may be affected by camera mounting angle and ambient temperature.

[3] Approximately the center of camera field of view.

[4] Time from the moment motion is detected until the picture (or video) is captured.

[5] An optional LiveCam account requires a paid subscription. Email and LiveCam are available with Cell Base and PCBase only.

[6] Transmission range and speed will depend on the type of antennas that are used, the surrounding terrain and amount of interference received.

13. Camera Base

If a computer is not available to connect to a Base, a camera may be configured to act as a base. In this mode, the Camera Base will receive images from other cameras and save them to an SD card. To setup a Camera Base network, follow the steps shown below.

Camera Base 1

Connect the camera antenna.

Camera Base 2

Install a UB1270 battery into the battery pack.

The red wire connects to battery (+). The black wire connects to battery (-).

Camera Base 3

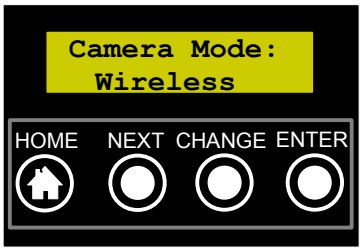
Close and latch the battery pack and connect it to the camera.

Camera Base 4

Open the camera enclosure and wait for the LCD display to show "Not Registered Waiting for Base".

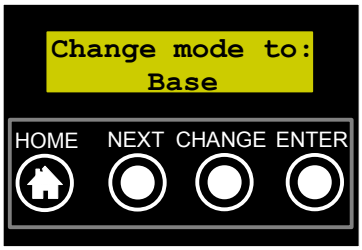
Camera Base 5

Push the NEXT button until the display shows "Camera Mode".



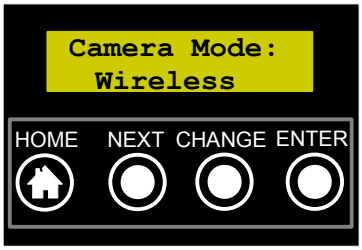
Camera Base 6

Push the CHANGE button until the display shows "Change mode to: Base".



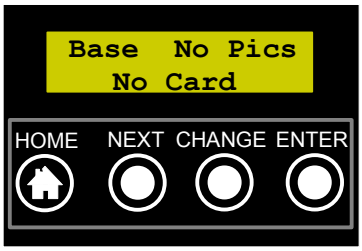
Camera Base 7

Push the ENTER button.



Camera Base 8

Wait for the camera to reboot.



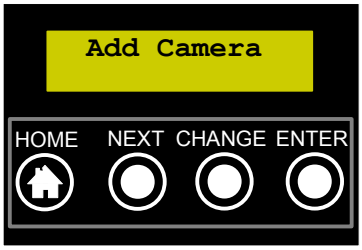
Camera Base 9

Repeat Camera Base steps 1 through 4 for all other cameras that will be in the Network.

Camera Base 10

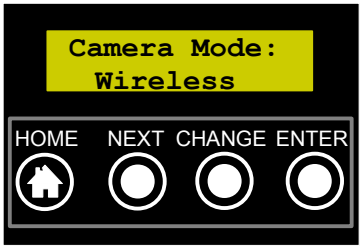
Push the NEXT button until display shows "Add Camera" and press ENTER.

Repeat until all un-registered cameras are found.



Camera Base 11

Push the NEXT button until the display shows "Camera Mode".

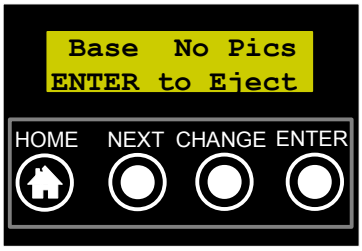


Camera Base 12

To change camera settings, download the Camera Base software at www.buckeyecam.com and save it to an SD card.

Camera Base 13

Double click on the Camera Base software. Change settings if desired and insert the card into the Camera Base.



Camera Base 14

Install cameras.

Follow the steps given in Chapter 9, *Camera Installation*.

14. Troubleshooting

Can't connect to PC Base with X-Series Network Manager.

Make sure the computer meets the minimum requirements: Windows XP or later, 128 MB RAM, 1.5 GB disk space, USB port.

Make sure the USB drivers are installed on the computer. They can be downloaded at http://www.buckeyecam.com/site/support.html

Try closing X-Series Network Manager and unplug the USB cable. Plug the USB cable back in, start X-Series Network Manager and try to connect again.

Can't connect to a Cell Base with X-Series Network Manager.

Make sure the power supply is connected properly, either a 12 V battery or AC/DC wall adapter.

Make sure the Off/On toggle switch is in the On position.

Make sure you have an active cellular data account.

Make sure you have entered the IP Address/Domain name and Authentication code correctly from the Information Sheet.

Disable any anti-virus or firewall software that my be blocking the connection.

Make sure that there is a good cell signal in the area where the Cell Base is. Does your phone have good service?

Can't connect to a Net Base with X-Series Network Manager.

Make sure the AC/DC wall adapter is plugged in properly.

Make sure the Off/On toggle switch is in the On position.

Make sure you are connected to the local network with an Ethernet cable.

Make sure you have the correct IP address/Domain name entered.

Make sure you have the authentication code entered correctly from the Information Sheet.

Camera can't get a signal to the PC Base from a camera using standard antennas.

Make sure the antenna is connected properly.

There must be a limited amount of obstructions between the camera and the PC Base. There should be few trees, no large hills, buildings or structures.

Make sure the distance between the PC Base and the camera is less than 2 miles.

Try moving the PC Base. Do not put the PC Base in a basement. If possible, move it to a window that is facing the direction of the camera.

Upgrade the PC Base antenna to a 40” Omnidirectional mounted as high as possible using 400 series cable available from Buckeye Cam.

Can't get a signal to the PC Base from a camera using a Yagi (Directional) antenna.

Make sure the antenna is pointed in the direction of the PC Base (see Chapter 10).

The antenna cable should be 400 series cable from Buckeye Cam.

Raise antenna higher if possible.

Upgrade the PC Base antenna to a 40” Omnidirectional mounted as high as possible using 400 series cable available from Buckeye Cam.

Can't get a signal to the Cell Base from a camera using standard antennas.

If the Cell Base is installed outdoors, try moving it closer to the camera, or to a more central location if multiple cameras are registered to it.

There must be a limited amount of obstructions between the camera and the Cell Base. There should be few trees, no large hills, buildings or structures.

Try mounting the antenna higher. If longer cable is required, use 400 series cable from Buckeye Cam.

Upgrade the antenna at the camera to a Yagi (Directional) antenna. The Yagi antenna at the camera should be pointed in the direction of the Cell Base.

15. Additional Information

Video Tutorials

X-Series Network Manager video tutorials are available at www.buckeyecam.com.

LiveCam

Images that are received by *X-Series Network Manager* may be automatically uploaded to an optional LiveCam account. Images that are uploaded to LiveCam may be viewed from any computer that has an Internet connection by logging into your LiveCam account. The account may be public or private. The LiveCam service requires a yearly subscription fee.

To setup a LiveCam account, visit www.buckeyecam.com

Other X80 Series Wireless Devices

The Buckeye Cam *X80 Series* also includes auxiliary sensors, repeaters, actuators, and game feeder controllers. All of the available devices work seamlessly together and may be controlled and monitored with the *X-Series Network Manager* software application.

Visit **www.buckeyecam.com** for the latest product information.

16. Warranty and Service

For service or repair, contact ATSI/Buckeye Cam at:
ATSI
8157 US Hwy 50 • Athens, OH 45701
(866) 325-8172 • (740) 592-2874
Fax (740) 594-2875
www.buckeyecam.com

Athens Technical Specialists, Inc. (ATSI) warrants Products (BuckEye Cam™) sold by it and guarantees to correct, by repair or replacement at our option, any defects of material and workmanship which develop under normal and proper use within six (6) months from the date of the original purchase when inspection proves the fault to be of manufacturing. Circuit board components only receive a twelve (12) month warranty. All such Products must be returned to our service center, transportation charges prepaid. This warranty does not apply to any of our Products which have been repaired or altered by unauthorized persons or service centers in any way so as, in our judgment, to injure their stability or reliability, or which have been subject to misuse, negligence, or accident or which have had their serial number altered, effaced or removed.

We will not assume any expense or liability for repairs made by other parties without our written consent. ATSI is not responsible for damage to any associated equipment or apparatus, nor shall we be held liable for loss of profit or other special damages. There is no other guarantee or warranty except as herein stated. The Buyer, his employees, or others assumes all risks and liabilities for the operation, the use and the misuse of the product described herein and agree to defend and to save the seller harmless from any and all claims arising from any cause whatsoever, including seller's negligence for personal injury incurred in connection with the use of the said product.

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